

AMENDMENTS TO THE CLAIMS

Upon entry of the present amendment, the status of claims will be as is shown below. This listing of claims replaces all previous versions and listings of claims in the present application.

1. (Canceled)

2. (Previously Presented) A dispersed pulse vector generator used for a speech coder/decoder, comprising:

a pulse vector generator configured to generate a pulse vector having a signed unit pulse;

a dispersion pattern storage configured to store a plurality of fixed dispersion patterns;

a dispersion pattern selector configured to determine a selected dispersion pattern of the plurality of fixed dispersion patterns with reference to an adaptive codebook gain; and

a dispersed pulse vector generator configured to generate a dispersed pulse vector by convoluting the pulse vector and the selected dispersion pattern;

the dispersion pattern selector comprising;

a first selector that pre-selects dispersion patterns of the plurality of fixed dispersion patterns; and

a second selector that determines the selected dispersion pattern, of the pre-selected dispersion patterns, to be convoluted with the pulse vector.

3. (Cancelled)

4. (Previously Presented) The dispersed pulse vector generator of claim 2, wherein the pulse vector is generated based on an algebraic codebook table.

5. (Previously Presented) The dispersed pulse vector generator of claim 2, wherein the plurality of fixed dispersion patterns stored in the dispersion pattern storage are sorted into plural types according to characteristics of each of the plurality of fixed dispersion patterns.

6. (Previously Presented) The dispersed pulse vector generator of claim of claim 5, wherein the plural types comprise a first type comprising pulse shape-like dispersion patterns and a second type comprising random shape-like dispersion patterns.

7. (Previously Presented) A method of generating a dispersed pulse vector used for a speech coder/decoder comprising:

providing a pulse vector having a signed unit pulse;

storing a plurality of fixed dispersion patterns;

selecting a dispersion pattern of the plurality of fixed dispersion patterns with reference to an adaptive codebook gain;

generating a dispersed pulse vector by convoluting the pulse vector and the selected dispersion pattern;

wherein the selecting further comprises;

pre-selecting dispersion patterns of the plurality of fixed dispersion patterns; and

determining the dispersion pattern, of the pre-selected dispersion patterns, to be convoluted with the pulse vector.

8. (Cancelled)

9. (Previously Presented) The method of generating a dispersed pulse vector used for a speech coder/decoder of claim 7,

wherein the pulse vector is provided based on an algebraic codebook table.

10. (Previously Presented) The method of generating a dispersed pulse vector used for a speech coder/decoder of claim 7,

wherein the plurality of stored dispersion patterns are sorted into plural types according to characteristics of each of the plurality of fixed dispersion patterns.

11. (Previously Presented) The method of generating a dispersed pulse vector used for speech coder/decoder of claim 10,

wherein the plural types comprise a first type comprising pulse shape-like dispersion patterns and a second type comprising random shape-like dispersion patterns.

12. (Previously Presented) A method of generating a dispersed pulse vector used for a speech coder/decoder comprising:

providing a pulse vector having a signed unit pulse;

pre-selecting dispersion patterns of a plurality of stored fixed dispersion patterns;

selecting a dispersion pattern of the pre-selected dispersion patterns with reference to an adaptive codebook gain; and

generating a dispersed pulse vector by convoluting the pulse vector and the selected dispersion pattern.

13. (Cancelled)

14. (Previously Presented) The method of generating a dispersed pulse vector used for a speech coder/decoder of claim 12,

wherein the pulse vector is provided based on an algebraic codebook table.

15. (Previously Presented) The method of generating a dispersed pulse vector used for a speech coder/decoder of claim 12,

wherein the plurality of stored fixed dispersion patterns are sorted into plural types according to characteristics of each of the plurality of fixed dispersion patterns.

16. (Previously Presented) The method of generating a dispersed pulse vector used for a speech coder/decoder of claim 15,

wherein the plural types comprise a first type comprising pulse shape-like dispersion patterns and a second type comprising random shape-like dispersion patterns.

17. (New) A dispersed pulse vector generator used for a speech coder/decoder, comprising:

a pulse vector generator configured to generate a pulse vector having a signed unit pulse;

a dispersion pattern storage configured to store a plurality of fixed dispersion patterns;

a dispersion pattern selector configured to select a dispersion pattern from the plurality of fixed dispersion patterns;

a dispersed pulse vector generator configured to generate a dispersed pulse vector by convoluting the pulse vector and the selected dispersion pattern;

the dispersion pattern selector comprising:

a first selector that pre-selects dispersion patterns of the plurality of fixed dispersion patterns; and

a second selector that determines the dispersion pattern, of the pre-selected dispersion patterns, to be convoluted with the pulse vector.

18. (New) The dispersed pulse vector generator of claim 17, wherein the dispersion pattern selector determines the selected dispersion pattern with reference to an adaptive codebook gain.

19. (New) The dispersed pulse vector generator of claim 17, wherein the pulse vector is generated based on an algebraic codebook table.

20. (New) The dispersed pulse vector generator of claim 17, wherein the plurality of fixed dispersion patterns stored in the dispersion pattern storage are sorted into plural types according to characteristics of each of the plurality of fixed dispersion patterns.

21. (New) A dispersed pulse vector generator, comprising:

a pulse vector generator for generating pulse vectors having a signed unit pulse;

a dispersion pattern selector for determining a subset of dispersion patterns from a plurality of fixed dispersion patterns and for selecting a dispersion pattern, from the subset of dispersion patterns, to be convoluted with a pulse vector;

a dispersed pulse vector generator for generating a dispersed pulse vector by convoluting the pulse vector and the selected dispersion pattern.

22. (New) The dispersed pulse vector generator of claim 21, further comprising:

a dispersion pattern component for providing a plurality of fixed dispersion patterns.

23. (New) The dispersed pulse vector of claim 21, wherein the dispersion pattern selector references adaptive codebook gain.

24. (New) The dispersed pulse vector generator of claim 21, wherein the pulse vector is generated based on an algebraic codebook table.

25. (New) The dispersed pulse vector generator of claim 21, wherein the plurality of fixed dispersion patterns stored in the dispersion pattern storage are sorted into plural types according to characteristics of each of the plurality of fixed dispersion patterns.

26. (New) A dispersed pulse vector generator, comprising:

a pulse vector generator for generating pulse vector having a signed unit pulse;

a dispersion pattern component for providing a plurality of fixed dispersion pattern;
means for selecting a subset of dispersion patterns from the plurality of fixed dispersion patterns;
means for determining a dispersion pattern from the subset of dispersion patterns to be convoluted with a pulse vector; and
a dispersed pulse vector generator for convoluting the pulse vector and the selected dispersion pattern.

27. (New) The dispersed pulse vector generator of claim 26, wherein the means for selecting a subset of dispersion patterns from the plurality of fixed dispersion patterns includes means for referencing adaptive codebook gain.

28. (New) The dispersed pulse vector generator of claim 26, wherein the means for selecting a subset of dispersion patterns from the plurality of fixed dispersion patterns includes means for sorting the fixed dispersion patterns according to plural types.

29. (New) The dispersed pulse vector generator of claim 26, wherein the means for selecting a subset of dispersion patterns from the plurality of fixed dispersion patterns includes a dispersion pattern selector for sorting the fixed dispersion patterns according to plural types.

30. (New) A dispersed pulse vector generator, comprising:
a pulse vector generator configured to generate a pulse vector having a signed unit pulse;
a dispersion pattern component configured to provide a plurality of fixed dispersion patterns;
a first selector that selects two or more dispersion patterns of the plurality of fixed dispersion patterns with reference to an adaptive codebook gain;

a second selector that identifies a dispersion pattern from two of more dispersion patterns to be convoluted with the pulse vector; and

a dispersed pulse vector generator configured to generate a dispersed pulse vector by convoluting the pulse vector and the selected dispersion pattern.

31. (New) A method of generating a dispersed pulse vector used for a speech coder/decoder, comprising:

providing a pulse vector having a signed unit pulse;

providing a plurality of fixed dispersion patterns;

selecting a dispersion pattern of the plurality of fixed dispersion patterns;

generating a dispersed pulse vector by convoluting the pulse vector and the selected dispersion pattern;

wherein the selecting further comprises:

pre-selecting the dispersion patterns of the plurality of fixed dispersion patterns;

and

determining the dispersion pattern of the pre-selected dispersion patterns to be convoluted with the pulse vector.

32. (New) The method of generating a dispersed pulse vector of claim 31,

wherein the dispersion pattern to be convoluted with the pulse vector is determined with reference to an adaptive codebook gain.

33. (New) The method of generating a dispersed pulse vector of claim 31,

wherein the pulse vector is generated based on an algebraic codebook table.

34. (New) The method of generating a dispersed pulse vector of claim 31,

wherein the plurality of stored dispersion patterns are sorted into plural types according to characteristics of each of the plurality of fixed dispersion patterns.

35. (New) The method of generating a dispersed pulse vector of claim 31, wherein pre-selecting the dispersion patterns of the plurality of fixed dispersion patterns includes pre-selecting the dispersion patterns of the plurality of fixed dispersion patterns according to an adaptive codebook gain.

36. (New) A method of generating a dispersed pulse vector, comprising:
providing a pulse vector having a signed unit pulse;
providing a plurality of fixed dispersion patterns;
pre-selecting a set of dispersion patterns from the plurality of fixed dispersion patterns;
selecting a dispersion pattern from the set of dispersion patterns to be convoluted with the pulse vector; and
convoluting the pulse vector and the selected dispersion pattern.

37. (New) A method of generating a dispersed pulse vector, comprising:
providing a pulse vector having a signed unit pulse;
selecting two or more dispersion patterns from a sorted set of fixed dispersion patterns, wherein the plurality of fixed dispersion patterns are sorted according to characteristics of each of the plurality of fixed dispersion patterns;
selecting a dispersion pattern from the sorted dispersion patterns to be convoluted with the pulse vector; and
generating a dispersed pulse vector by convoluting the pulse vector and the selected dispersion pattern.